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Vol. VI, No. 3.] BULLETIN OF THE TORREY BOTANICAL CLUB. [New York, Mch., 1875.

§ 15.—NEW HEPATICÆ, by C. F. AUSTIN.

1. **Riccia Frostii,** *n. sp.* Fronde parva orbiculari solidiuscula (subcavernosa?) tenui plana cineraceo-viridi subpalmatim radiatimve divisa fibroso-reticulata minuteque foveolata subtus esquamosa haud carinata radiculis intus fere tota lævibus instructa, margine nuda angustissime membranacea nonnumquam obsolete purpurea, laciniis subsphathulato linearibus subdichotomis, lobis apice leniter dilatatis subtruncatis indistincte emarginatis, sporangiis permultis in medio frondis dispersis subtus valde prominentibus, sporis parvis (vix 1-500 unc. metientibus) fuscis obscure angularibus biconvexis in circuitu subrotundis minute granuloso-papillosis obscure minute reticulatis opacis subnigro-marginatis in statu siccato lateribus undique valde depresso-concavis.

Nevada, *S. Watson;* communicated by *C. C. Frost, Esq.* Colorado, *Wolf* and *Rothrock;* communicated by *Dr. James.* (Associated with *R. crystallina.*)

Fronds, 5—7 lines, and lobes $\frac{1}{2}$—$\frac{3}{4}$ of a line broad. Resembles *R. crystallina* in some respects; but that has the larger, thicker, and vesiculose frond much more coarsely pitted in the upper surface, with the divisions much broader, rootlets strongly papillose within, spores twice the diameter, coarsely tuberculated, the sides not concave when dry, &c.

R. glauca has a larger frond of a different texture above, and more broadly membranaceous on the margin; spores $\frac{1}{300}$ of an inch in diameter, coarsely reticulated, the sides not depressed when dry; rootlets as in *R. crystallina*, &c.

I have recently received a single specimen of this species from *Dr. H. C. Beardslee*, collected on alluvial soil near Painesville, Ohio, which differs from the Rocky Mountain specimens above described as follows:

Frond solid, orbicular, its divisions somewhat papulose-squamulose and frequently slightly tinged with purple along the margins, about an inch in diameter, divided to the centre into numerous narrow laciniæ which are concave-canaliculate above (both in the dry and in the moist state), lobes almost linear, sporangia much less numerous.

2. **Riccia Watsoni,** *n. sp.*—Fronde parva fusco-purpurea orbiculari profunde pluries divisa crassiuscula solidiuscula superne late foveolata papuloso-et fibroso-reticulata glandis magnis subclavatis obsita, laciniis angustis dichotomis supra planis (vel in siccis late canaliculatis) subtus carinato-incrassatis concoloribus esquamosis valde radiculosis radiculis intus lævibus, lobis sublinearibus apice valde obtusis anguste emarginatis subincrassatis intus tuberis magnis farctis (ut fronde valde vesciculosa videatur): fructu ignoto.

It is barely possible that this may prove to be the male plant of *R. Frostii.* It is distinguished by the purplish color of the very small frond, with large gland-like bodies on its surface, and large tuber-like bodies situated in its substance; also by the rootlets being entirely smooth within. There are no cavities in the frond excepting those containing the tuber-like bodies (or which have contained them at some former time). These bodies are solid and opaquish; they are turned brown by the action of iodine. The surface of the frond is broken up into broad shallow pits, with the shreds elevated and forming the gland-like bodies. These are fewer and much larger than in *R. Frostii*, which has the surface broken up into much smaller pits. The cavities containing the tuber-like bodies do not communicate with the pits in the surface.

3. **Metzgeria linearis.**—A *M. furcatæ* formis minoribus differt; fronde rigida magis regulariter furcatim divisa, laciniis magis æqualibus, reti minore confertiore magis ovali, cellulis longioribus crassioribus hyalinis interrupte marginata, ciliis marginalibus multo crassioribus vulgo spiniformibus, involucro masc. ratione majore, etc.

Jungermania linearis, Swartz, Prodr. Fl. Ind. Occ.: teste speciminis ex Herb. Hooker quod in Herb. Taylor asservatur (an originalis?).—*Metzgeria marginata*, Aust. MSS. 1874.—*M. furcata.* Hepaticæ Cubenses Wrightianæ, partim.

On trees growing over twigs and mosses, Cuba, *Dr. C. Wright.*

This species has much the general appearance of some of the smallish forms of *Riccia fluitans.* It is readily distinguished from its congeners by the margined subspinulose-ciliate or dentate frond. The ciliæ or teeth are in a single more or less interrupted row. The cellules of the marginal row are frequently like the others here and there, but they are mostly elongated and otherwise larger and more hyaline (much as in the leaves of some species of *Mnium* or *Fissidens*).

4. **Alicularia Lescurii,** *Aust. Hepat. Exsic. n.* 5.—Ab *A. Scalari* differt: foliis omnino emarginato-bilobis: fructus desunt.

On wet rocks, Tallulah Falls, Georgia, *Lesquereux.*

Leaves lobed much as in *Sarcoscyphus emarginatus;* but the areolation (lax) and amphigastria as in *Alicularia Scalaris.* Stems prostrate; these and the base of the leaves rather copiously radiculose underneath.

5. **Jungermania (Cephalozia) Kiæri,** *n. sp.*—Caule pertenui filiformi parce innovante ramoso, foliis latitudine caulem æquantibus magis minusve distantibus basi lata sessilibus subrotundis (magis latis quam longis) concavis subpatentibus, sinu lobisque obtusis et obtusiusculis bifidis, margine minute eroso-serrulata, cellulis minutis medialibus ovalibus marginalibus minoribus subquadratis, intercallaribus latiusculis, perianthio in ramuli perbrevi ventrali albescente oblongo-cylindrico subtriquetro profunde parce plicato apice obsolete denticulato, foliis involucralibus interioribus subserratis; amphigastriis nullis.

Africa; with *Dicranella Borgeni,* Hampe. Communicated by *Dr. Frank Kiær,* of Norway.

About the size of *J. divaricata;* but the leaves are shorter and broader in proportion, more patent, more concave, with the lobes shorter more obtuse and somewhat connivent, cells a little more distant, less quadrate, and less uniform, perianth on a much shorter branch, and albescent or very pale fuscous, etc.

6. **Calypogeia Sullivanti,** *n. sp. Aust. Hep. Exsic. n.* 74, *b.*—Caule prostrato flagellis ventralibus instructo siccitate dorso vulgo lenissime canaliculato $\frac{1}{2}$—$\frac{3}{4}$ unciali, foliis explanatis subcontiguis imbricatisve oblique rotundo ovatis subconvexis apice angustato

minute bidentatis, dentibus omnino rectis, sinu lunulato-obtuso, margine inferiori abrupte anguste decurrenti, reti satis laxo in magnitudine undique uniformi, amphigastriis minutissimis, superioribus orbiculatis bifidis, dentibus rectis acutiusculis integerrimis, sinu obtuso, medialibus inferioribusque bifurcate quadrilobis lobis primariis rotundo-quadratis valde divaricatis secundariis ovatis vel subulatis plerumque acutis; colore satis viridi.

In the Southern States, *Sullivant*, *Ravenel*, *Mohr*. Also, on slides at the Delaware Water Gap, New Jersey (*Austin*).

C. bidentula, Nees, is a larger species with the leaves of a somewhat similar shape and areolation, but with the teeth at the apex much less uniform, often very obtuse. sometimes nearly obsolete; ventral flagella none.

C. arguta, N.&M., also has stems without ventral flagella, leaves of a much looser reticulation, broader at the apex, and furnished with larger, somewhat divergent teeth. Possibly our plant is the *C. Peruviana*, Nees (Syn. Hepat. p., 200).

7. **Lepidozia? Californica**, *n. sp.*—Caule subfiliformi flaccido inordinate ramoso, foliis laxe imbricatis profunde palmatim 3-5-fidis, laciniis longe filiformi-attenuatis inæqualibus (inferioribus minoribus subinflexisque) integerrimis repandisve aut hic illic iterum incisis; amphigastriis caule latioribus suboblongis profunde bifidis, laciniis longe inciso-ciliatis, foliis amphigastriisque involucralibus subconformibus; reti laxo; inflorescentia dioica? pistillidiis numerosis, nudis: fructu—. (An *Mastigophoræ* species ?)

Bark of trees, mountains of California, *Bolander*. (Occurs in Musc. Exsic. Sulliv. & Lesqx. Ed. 2, with No. 474, Hypnum circinale).

8. **Radula Hallii**, *n. sp.* Statura inflorescentia habituque *R. complanatæ;* sed foliis apice magis incurvis, involucralibus minoribus magis æqualiter bilobis, perianthio majore elliptico-oblongo subinflato apice angustiori ore sæpe subscarioso, perbelle distinguitur.

On trees, Salem, Oregon, *E. Hall.*

9. **Radula Sullivanti**, *Aust. Hep. Exsic. n.* 88^c—Flavescens subnitens; caulibus strictis subparallelis imbricato-cæspitosis hic illic (præcipue ad apicem) confertim pinnatis, ramulis brevibus divaricatis, foliis subimbricatis flaccidis siccando subcrispatis patentissimis rotundo-ovalibus falcatis convexis apice magis minusve decurvis basi ventrali abrupte complicatis, margine subrepando-dentata inferiore rotundata et cum carina angulum plerumque rectangulum formante (carina ad $\frac{3}{5}$-erecta), lobulo parviusculo subinflato apice obtusissime triangulari-vel semicirculari-rotundato, margine interna cauli adnata et cum eo parallela, toro radicellarummagno umbonato vel subcampanulato, reti e cellulis mediocribus subobscuris punctiformibus subrotundo-hexagonis subuniformibus supra haud convexis, intercallaribus angustissimis pellucidis exstructo: flore et fructu ignotis.

On rocks; mountains of Georgia, *Sullivant*, *Lesquereux.*

10. **Radula spicata**, *n. sp.*—Dioica, minutula; caule brevi prostrato intricato valde innovanti-ramoso, foliis caulinis laxe imbricatis semiverticalibus subadscendentibus late obovatis obtusis integerrimis basi inflatis obtusissime complicatis spatio brevi latoque

bilobis, lobis utroque convexis (margine subincurvis), ventrali dimidio minore late triangulari-ovato obtuso margine interiori cauli adnato, toro radicellarum magno elongato subconico obtuso, reti e cellulis minutis subrotundo-hexangularibus conformibus supra vix convexis formato, foliis ramulinis minoribus basi magis inflatis lobulo ratione majore, involucralibus parvis, lobis æqualibus subovalibus, perianthio e basi obconica oblongo compresso apice subtruncato-rotundo e cellulis minutis hexangularibus confertis opacis formato, capsula oblonga, sporis magnis fuscis minute papillosis, granulis 1—4 magnis continentibus; spicula masculina 1—4 lineas longa arcte foliata, foliis perigonialibus 10—40 paribus, lobis æqualibus valde inflatis.

On trees; California, *Bolander*. Salem, Oregon, *Hall*.

Stems and perianth shorter than in *R. obconica*, Sulliv.; leaves of about the same size but of a different shape and texture; inflorescence different, &c.

11. **Lejeunia (Omphalanthus?) Mohrii,** *n. sp.*—Plantæ parvæ, sordido- vel fusco-virides; caule $\frac{1}{2}$—$\frac{3}{4}$ unciali tenui subsimplici, foliis subcontiguis oblique ovatis obtusis integerrimis (leniter repandisve) opacis valde chlorophyllosis patentissimis et subdecurvis (ut margine ventrali cum caule angulus rectus vel acutiusculus formetur) lobo parvo inflato apice unidentato, reti pro genere minuto obscuro, amphigastriis orbiculatis integris parvis (caule vix duplo latioribus) planis distantibus: fructu ——.

Mobile, Alabama, *Dr. Chas. Mohr.* (1874).

A small species, scarcely as large as *Lejeunia Sullivantiæ*, Aust., and having much the appearance of a *Radula.* Readily distinguished by the widely spreading or somewhat decurved leaves, of a small uniform opaque areolation, and by the small round entire amphigastria.

Lejeunia Jooriana, *n. sp.*—Plantæ minutæ pallido-virides; caule repente parce diviso laxe foliato, foliis ovatis obtusis planiusculis subpatentibus laxis, lobulo mediocri inflato unidentato, reti mediocri cellulis ovali-rotundis uniformibus supra convexis formato, perianthio minuto subobovato haud compresso apice leniter quinquangulato cæteroquin lævi: amphigastriis nullis.

On reeds; Louisiana, *Dr. Joor.*

Differs from *L. echinata*, Tayl., in the larger, more lax, less convex, scarcely papillose leaves, much less angled perianth, etc.

12. **Frullania Hallii,** *n. sp.*—Monoica, tetragyna; caule prostrato nordinate ramoso apice sæpe erecto flagellifero-attenuato defoliato atque amphigastriis crebris squarrosis instructo, ramis fructiferis brevibus clavatis adscendentibus, foliis parvis subdistantibus subimbricatisve oblique ovato-rotundis valde convexis apice incurvis, auricula magna vel majuscula galeiformi ovali-rotunda cauli contigua, lobulo interjecto dentiformi minuto, amphigastriis caule vix latior, ibus obovato-quadratis breviter bilobis utrinque subunidentatis-lobis subdivaricatis obtusiusculis, perianthio semi-exserto late obovato compressiusculo dorso versus apicem bi- ventre quadrinervoso unicarinato, involucri foliis uno alterove cum amphigastriis alte connatis repando-subdentatis, lobis fere æqualibus oblongis obtusis, ventrali extrorsum usque versus apicem unidentato, amphigastrio interiori late ovato rotundove apice integro nonnullove leniter emargin-

ato, margine integerrima vel obtuse dentata; spicula masculina rotunda; colore rufo-fusco.

On trees; Salem, Oregon, *E. Hall.*

Remarkable for the usually entire (at the apex) innermost involucral amphigastria. Frequently two or more capsules are successively matured in the same perianth. The species most nearly resembles *F. Bolanderi*, Aust.; but that is smaller and of a fuscous color, with shorter stems, more imbricated leaves and a much more compressed auricle, upper lobe of the involucral leaves broader, the lower one narrower and acute or acutish at the apex, innermost amphigastria of the involucre acutely 2 (–4) toothed at the apex, male spike ovate-oblong, &c.

Size and general habit about as in *F. inflata*, Gott, *F. Sullivanti*, Aust., and *F. Oakesiana*, Aust.; however, among other points of difference, none of these have entire involucral amphigastria; nor do any of them have the tooth on the margin of the involucral leaves situated above the middle of the lower lobe (as in both *F. Hallii* and *F. Bolanderi*).

13. **Rhossalanthus mnioides**, *nov. gen.* et *spec.* Lindb. in litt. Aug., 1874.—The above genus is founded upon specimens collected in Japan, by the N. Pac. Expl. Expd., under Com. Rodgers, and recently sent by me to Dr. Lindberg. He reports it as being a very distinct new genus, allied to *Scalia*, B. Gr. (*Haplomitrium*, Nees). —Stems erect (always ?) about one inch high, rootless, flattish, and *aneura-like* but thick and solid. Leaves roundish, lax, decurrent, wavy, or contorted; the lower small, distant; the upper much larger and becoming crowded at the apex into a sort of cup-like involucre. Small, oval, naked antheridia (apparently tubers), are borne on the base of the innermost whorl of leaves on the inside; also occasionally in the axils of other of the upper leaves. Fruit not seen.

14. **Thallocarpus.** *Cryptocarpus, nov. gen.* Aust. in Proc. Phila. Acad. for Mar., 1869, p. 231.

Thallocarpus Curtisii. *Cryptocarpus Curtisii*, Aust. l. c.—According to Dr. Lindberg in a recent letter, there are amongst the *Chenopodiaceæ* a *Cryptocarpus*, H. B. K.; and among the *Musci* (*Orthotrichæ*) also a *Cryptocarpus*, D. M.; wherefore the above change. The plant evidently belongs, with Sphærocarpus (its nearest ally), to the Jungermaniaceæ.

§ 17. **Publications Received.**—1. *Notice biographique sur Charles-Frederic Meissner*, par M. Alph. de Candolle. Extrait du Bulletin de la Société botanique de France, November, 1874. Dr. Gray, in his notice of Meissner in the BULLETIN for June, 1874, says: "For the details of the life of this excellent botanist and estimable man we must wait until the tributes to his memory arrive, which his associates in his native Switzerland and in the chief centres of science in Europe are sure to offer." M. de Candolle makes these words of Dr. Gray the occasion of the present notice. Meissner (originally Meissner) was born at Berne, November 1st, 1800. He became Professor of Medicine in the University of Basle in 1828, but in 1830 changed the chair of medicine for that of botany, which he held till 1866, when infirmities obliged him to retire. M. de Candolle bears testimony to the conscientiousness of his work, and his untiring diligence." His